

Executive Summary

As the Superfund program entered its thirteenth year in December 1992, the U.S. Environmental Protection Agency (EPA or “the Agency”) continued to fulfill the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) for protecting public health, welfare, and the environment. CERCLA requires that EPA update Congress each year on progress in the Superfund program. This Report fulfills the requirement.

EPA is committed to accelerating the pace of hazardous waste site cleanup. As part of this commitment, the Agency completed construction activities to place 68 National Priorities List (NPL) sites in the construction completion category during fiscal year 1993 (FY93). By the end of the fiscal year, work had occurred at more than 94 percent of the 1,320 sites proposed to or listed on the NPL, including 51 sites that have been deleted from the NPL. Leaving a total of 1,197 sites currently listed on the NPL for fiscal year 1993. To streamline future cleanups, the Agency continued implementing the Superfund Accelerated Clean-Up Model (SACM).

The Agency also continued its successful efforts to encourage potentially responsible parties (PRPs) to undertake and finance clean-up efforts at Superfund sites. PRPs were leading 65 percent of remedial designs (RDs) and 80 percent of remedial actions (RAs) started during the fiscal year. Since the inception of the Superfund program, EPA has reached agreements worth more than \$8.5 billion for PRP response work at Superfund sites.

This Report identifies Superfund accomp-

lishments, highlighting FY93 accomplishments and initiatives to improve the program. Exhibit ES-1 presents a summary of FY93 accomplishments. Exhibit ES-2 provides a comparison of FY93 accomplishments with those of previous years and presents cumulative program accomplishments. FY93 accomplishments reflect the Agency’s commitment to, and focus of resources on, activities required to complete site cleanups.

FY93 Initiatives

Examining ways to further improve the effectiveness of the Superfund program, the Agency identified administrative changes that could be made within the existing statutory and regulatory framework. An Administrative Improvements Task Force, appointed by the EPA Administrator, identified 17 areas for improvement, centered around four themes:

- *Promoting Enforcement Fairness and Reducing Transaction Costs:* Superfund settlement negotiations and litigation have often been lengthy and costly, resulting in substantial transaction costs. To reduce transaction costs and ensure equity in enforcement, EPA worked in FY93 to foster greater use of allocation tools, reach more settlements with small volume waste contributors, ensure fairness for owners of Superfund sites, and evaluate the use of mixed funding.
- *Enhancing Clean-up Effectiveness and Consistency:* In addition to SACM, EPA intensified efforts to streamline cleanups by developing presumptive remedies, addressing

Exhibit ES-1 Summary of Fiscal Year 1993 Superfund Activities

Remedial Program Activities		
Percentage of National Priorities List Sites Where Work Has Begun		94%
Sites Classified as Construction Completions as of September 30, 1993		217
Sites with Remedial Activities in Progress on September 30, 1993		910
Records of Decision Signed ¹		134
Remedial Investigation/Feasibility Starts ²		60
Fund-Financed		60%
Potentially Responsible Party-Financed		40%
Remedial Investigation/Feasibility Studies in Progress on September 30, 1993		919
Remedial Design Starts ²		130
Fund-Financed		35%
Potentially Responsible Party-Financed		65%
Remedial Designs in Progress on September 30, 1993		445
Remedial Action Starts ²		120
Fund-Financed		20%
Potentially Responsible Party-Financed		80%
Remedial Actions in Progress on September 30, 1993		386
Removal Program Activities		
Removal Action Starts ²		310
Fund-Financed		80%
Potentially Responsible Party-Financed		20%
Removal Action Completions ²		290
Fund-Financed		70%
Potentially Responsible Party-Financed		30%
Site Assessment Program Activities		
CERCLIS Sites Added ²		1,100
Preliminary Assessments Conducted ²		1,100
Site Inspections Conducted ²		700
National Priorities List Site Activities to Date		1,320
Sites Proposed for Listing During Fiscal Year 1993		52
Final Sites Listed During Fiscal Year 1993		33
Sites Proposed for Deletion During Fiscal Year 1993		7
Sites Deleted During Fiscal Year 1993		11 ³
Enforcement Program Activities		
Settlements for All Potentially Responsible Party Response Activities	189	(\$910 million) ⁴
Remedial Design/Remedial Action Settlements ⁵	86	(\$810 million)
Unilateral Administrative Orders Issued (All Actions)	127	N/A
Cost Recovery Dollars Collected	N/A	(\$185 million)
Accomplishments at Federal Facility Sites		
Records of Decision Signed		56
Remedial Investigation/Feasibility Study Starts ²		80
Remedial Design Starts ²		40
Remedial Action Starts ²		20
¹ Records of decision signed for Fund-financed and potentially responsible party-financed sites. ² Numerical values for accomplishments based on information from CERCLIS have been rounded. ³ Does not include one site that was deleted because it was deferred to another authority for cleanup. ⁴ Estimated value of work potentially responsible parties have agreed to undertake. ⁵ Remedial design/remedial action settlements include remedial design/remedial action consent decrees and unilateral administrative orders with which potentially responsible parties have stated their intention to comply.		

Sources: CERCLIS; Office of Waste Programs Enforcement; Office of Emergency and Remedial Response;
Federal Register notices through September 30, 1993.

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Exhibit ES-2
Summary of Program Activity by Fiscal Year

	FY80-86 Total	FY87	FY88	FY89	FY90	FY91	FY92	FY93	Total¹	Total²
Removal Completions ³	810	230	320	260	290	270	340 ⁷	290	2,810	2,850
National Priorities List Sites ⁴	901	964	1,194	1,254	1,236	1,245	1,275	1,320	1,320	1,320
CERCLIS Sites ³	25,200	27,600	30,000	31,900	33,600	34,200	36,400	37,500	37,500	37,500
PA Completions ³	20,200	4,000	2,900	2,200	1,600	1,300	1,900	1,100	35,200	35,200
SI Completions ³	6,400	1,300	1,200	1,700	1,900	1,900	1,300	700	16,400	16,400
Remedial Investigation/ Feasibility Study Starts ³	660	210	170	170	170	70	90 ⁸	60	1,600	2,220
Records of Decision Signed	199	77	152	136	149	175	126	134	1,148	1,316
Remedial Design Starts ³	120	110	120	180	130	160	170 ⁹	130	1,120	1,270
Remedial Action Starts ³	70	70	70	110	80	100	110 ¹⁰	120	730	830
Construction Completions ⁵	--	--	--	--	--	61	88	68	217	217
National Priorities List Deletions ⁶	13	0	4	11	1	9	2	11	51	51
¹ Includes only activities where Fund monies were spent. The total includes Fund monies spent at enforcement-lead sites to oversee PRP activities. ² Also includes activities conducted by federal facilities and states where no Superfund resources were used. ³ Numerical values for accomplishments based on information from CERCLIS have been rounded. ⁴ The figures reported in this row represent the cumulative total of proposed, final and deleted National Priorities List sites as of the end of each fiscal year. At the end of FY93, 71 sites were proposed for listing. ⁵ Adopted as measure of program progress by 1991 30-Day Study Task Force. FY91 value represents FY80 through FY91. ⁶ FY93 deletions include 11 sites deleted because CERCLA clean-up objectives were met and one site deferred to another authority for clean-up. ⁷ The number for Removal Completions in FY92 was 342; it has been rounded for inclusion in the FY93 table so that figures will add properly. See also note 3. ⁸ The number for Remedial Investigation/Feasibility Study Starts in FY92 was 88; it has been rounded for inclusion in the FY93 table so that figures will add properly. See also note 3. ⁹ The number for Remedial Design Starts in FY92 was 172; it has been rounded for inclusion in the FY93 table so that figures will add properly. See also note 3. ¹⁰ The number for Remedial Action Starts in FY92 was 111; it has been rounded for inclusion in the FY93 table so that figures will add properly. See also note 3.										

Sources: CERCLIS; Office of Emergency and Remedial Response; *Federal Register* notices through September 30, 1993.

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the technical complexities associated with dense non-aqueous phase liquid (DNAPL) contamination of ground water, and developing standardized soil screening levels.

- *Promoting Increased Community Involvement and Ensuring Environmental Justice:* Because it is critical for citizens living in direct proximity to hazardous waste sites to be aware of and involved in the clean-up process, EPA engaged in efforts to increase community involvement. Efforts included developing innovative community involvement techniques and soliciting public input.
- *Strengthening the Role of the States:* Because EPA alone cannot address all hazardous waste sites potentially in need of remediation, EPA has provided funding and technical assistance to support the development of state Superfund programs. Currently, EPA has delegated the lead for CERCLA clean-up activities at NPL sites through site-specific or multi-site cooperative agreements. In addition, with EPA's support, many states have implemented clean-up programs to address non-NPL-caliber sites, and as a result, significant numbers of non-NPL sites have been or are being cleaned up. Due to the success of this effort, the Agency initiated an effort in FY93 to enhance the state role in the cleanup of NPL-caliber sites.

The Agency also continued earlier efforts to improve the effectiveness and efficiency of Superfund. Preparing for full implementation of SACM, the Agency carried out pilot projects to develop a single site assessment process, define the role of the Regional decision teams, and use early actions and long-term actions for cleanup. Other efforts included focusing resources on completing the evaluation and cleanup of sites, ensuring effective management of contracts, and promoting consistency in assessing and managing risk.

Site Evaluation

EPA continued its progress in identifying and assessing newly discovered sites. At the end of FY93, there were more than 37,500 sites identified in

the CERCLA Information System (CERCLIS), the Superfund inventory of potentially hazardous waste sites. EPA had evaluated more than 95 percent of these sites for potential threats and determined that 1,320 should be proposed to, listed on, or deleted from the NPL, the list of sites having highest priority for remediation. The number includes 33 sites listed and 52 proposed during the year.

EPA published several guidance documents during FY93 to address improvements in site evaluation, facilitate the generation of useable analytical data to support clean-up decisions, and increase community involvement throughout the site assessment process. In addition, the Agency proceeded with ongoing efforts to address technical complexities associated with lead and radionuclide contamination. With regard to lead contamination, EPA continued to develop a model and guidance for determining acceptable levels of lead in soil and analyzed results from a three-city study on lead contamination. Addressing radioactive sites, EPA continued to develop guidance and assisted the Regions with radiation issues.

Removal Progress

To protect human health and the environment from immediate or near-term threats, the Agency and PRPs started 310 removal actions and completed 290 during FY93. Nearly 3,350 removal actions have been started and 2,810 have been completed since the inception of the Superfund program.

As proposed under SACM, the Agency continued its efforts to expand the use of removal authority for early actions to reduce risks more rapidly and expedite cleanup at NPL sites. EPA piloted the early action approach at 16 additional sites during FY93, drawing on funds allocated for this purpose.

Other EPA highlights from FY93 include activities of the Environmental Response Team (100 removal actions, 70 RAs, and responses to 10 oil spills and 2 international incidents). The Agency also promulgated final reportable quantity (RQ) adjustments for 30 hazardous substances.

Remedial Progress

Remedial progress during the fiscal year reflects

the Agency's continuing efforts to accelerate the pace of clean-up activities and complete cleanups at Superfund sites. At the end of FY93, work had occurred at 94 percent of the 1,320 sites proposed to or listed on the NPL, and construction activities had been completed to place 217 NPL sites, or more than 16 percent, in the construction completion category. During the year, the Agency and PRPs started approximately 60 remedial investigation/feasibility studies (RI/FSs), 130 remedial designs (RDs), and 120 remedial actions (RAs). EPA also signed 134 records of decision (RODs) for Fund-financed and PRP-financed sites. At the end of the year, 919 RI/FSs, 445 RDs, and 386 RAs were in progress at 910 sites.

The Agency continued efforts initiated under the 1991 30-Day Study to streamline remedial activities. Streamlining activities included developing presumptive remedies, establishing soil screening levels, and issuing policy for technical impracticability waivers. The Agency also took measures to demonstrate and provide information on innovative treatment technologies to encourage their use at Superfund sites. To this end, EPA continued the Superfund Innovative Technology Evaluation Program and other programs to provide technical assistance, information, and training.

Enforcement Progress

Enforcement progress for FY93 reflects the Agency's continuous commitment to maximize PRP involvement in financing and conducting cleanup, and to recover Superfund monies expended for response actions. During FY93, EPA reached agreements with PRPs worth more than \$910 million in PRP response work. Through its cost recovery efforts in FY93, EPA achieved \$220 million in settlements and collected \$185 million for reimbursement of Superfund expenditures. Examples of significant enforcement actions are provided in Chapter 5 of this Report.

The Agency's administrative improvements proposed during the year reinforced EPA's goal of ensuring equity in the enforcement process. As part of this initiative, the Agency took steps to foster greater fairness for Superfund site property owners,

encourage early settlements with *de minimis* and "de micromis" parties, increase the use of alternative dispute resolution, and evaluate the increased use of mixed funding. Continuing preparations for full implementation of SACM, the Agency also worked on streamlining the enforcement-related activities while maintaining high levels of PRP participation in response work.

Federal Facility Cleanups

Federal departments and agencies are largely responsible for implementing CERCLA at federal facility sites. To ensure federal facility compliance with CERCLA requirements, EPA provides advice and assistance, oversees activities, and takes enforcement action where appropriate. At sites on the NPL, EPA must concur in remedy selection.

At the end of FY93, there were 1,945 federal facility sites identified on the Federal Agency Hazardous Waste Compliance Docket. Of the sites on the docket, 143 were proposed to or listed on the NPL, including 123 final and 20 proposed sites. Including the six interagency agreements executed during the year, 120 of the 123 final federal facility NPL sites were covered by enforceable agreements for cleanup. Activity during the fiscal year at these federal facility NPL sites included starting approximately 80 RI/FSs, 40 RDs, and 20 RAs, and signing 56 RODs.

In FY93, more than 30 military bases were selected for closure or realignment, including 5 installations listed on the NPL. This brought the total number of NPL sites that are also military installations being scheduled for closure to 20. During the fiscal year, the Agency, in conjunction with the Department of Defense, states, and local citizens, worked on the President's Five-Point Plan to accelerate the economic recovery of communities near military bases that are scheduled for closure.

The Agency also participated in interagency workgroups and roundtables to examine issues specific to federal facility cleanup. The Federal Facilities Environmental Restoration Dialogue Committee (FFERDC), established in 1992 as an advisory committee under the Federal Advisory Committee Act, provided a forum for identifying

and redefining issues related to environmental restoration activities at federal facilities. During FY93, the FFERDC published an interim report describing methods for improving the process by which federal agencies share information and involve affected parties in decision making and priority setting at federal facilities.

Of the sites on the Federal Agency Hazardous Waste Compliance Docket at the end of FY93, 20 were EPA-owned, including 4 sites added to the docket and 1 site removed from the docket during the fiscal year. None of these EPA-owned sites were listed on the NPL. This Report provides the status of these sites, as required by CERCLA Section 120(e)(5).

Superfund Program Support Activities

EPA took measures in FY93 to enhance support activities in the Superfund program. Activities included improving community involvement, enhancing public access to information, strengthening EPA's partnership with states and Indian tribes, and encouraging minority contractor utilization.

In efforts to help citizens to be more knowledgeable about the technical and scientific aspects of Superfund sites and better prepared to participate in the clean-up process, EPA awarded 32 technical assistance grants (TAGs) to community groups in eight Regions. The Agency also engaged in innovative techniques to encourage community involvement in cleanup. In addition, the Agency explored ways to increase community involvement in the Superfund program, enhance outreach between EPA and communities, and ensure environmental justice by addressing concerns of minority and low-income communities.

To enhance public access to Superfund information, the Agency continued its partnership with the National Technical Information Service (NTIS) to provide Superfund document distribution services through NTIS. During FY93, the Agency expanded the Superfund document collection available through NTIS and continued outreach to inform the public of the services available.

To promote its partnership with states and Indian tribes in the Superfund clean-up process, EPA assisted in developing comprehensive state and Indian tribe Superfund programs under core program cooperative

agreements (CPCAs), granting CPCAs worth over \$1.2 billion since the inception of the program. With EPA's support through Trust Fund resources under response agreements, states, and Indian tribes were engaged in nearly 90 RI/FSs, RDs, RAs, and removal actions in progress during FY93.

To promote small and disadvantaged businesses, EPA, through direct and indirect procurements, awarded over \$29.3 million worth of contracts and subcontracts in FY93 to minority contractors to perform Superfund work. This amount represents more than 3 percent of the total dollars obligated to finance Superfund work during the year. EPA conducted training sessions to help minority contractors become more successful in winning Superfund direct prime contract and subcontract awards. The Agency also hosted minority business enterprise and women's business enterprise workshops to familiarize minority and women business owners with the opportunities available through Superfund.

Resource Estimate for Superfund Implementation

Under Executive Order 12580, EPA is required to estimate the resources needed to implement Superfund, and CERCLA requires that EPA provide the estimates in this Report. Since the enactment of CERCLA in 1980, Congress has provided Superfund with \$11.9 billion in budget authority (FY81 through FY93). This includes \$1.7 billion for pre-SARA (FY81 through FY86) and \$10.2 billion for the post-SARA period, FY87 through FY93.

Estimates of long-term resources to implement Superfund are based on the Outyear Liability Model (OLM). The OLM estimate of the cost to complete cleanup of current NPL sites is more than \$15.8 billion for FY94 and beyond, bringing the total estimated cost for the program to \$27.7 billion.

Organization of this Report

Information prepared for this Report is assembled in response to Congressional requirements specified in CERCLA. Exhibit ES-3 is a guide to the information required under CERCLA and its location in the Report.

Exhibit ES-3 Statutory Requirements for the Report

CERCLA Section	CERCLA Requirement	Report Section	Report Content
301(h)(1)	Annual report to Congress on the progress achieved in implementing Superfund during the preceding fiscal year	Chapter 1	Initiatives to improve the Superfund program
		Chapter 2	Site evaluation progress
		Chapter 3	Removal progress
		Chapter 4	Remedial progress
		Chapter 5	Enforcement progress
		Chapter 6	Federal facility cleanups
		Chapter 7	Community relations, state and Indian tribe, and public outreach activities
301(h)(1)(A)	Detailed description of each feasibility study (FS) at a facility	Section 4.4	Overview discussion of RODs signed during the fiscal year, including the number of treatment and containment remedies selected
		Appendix C	List of RODs signed in the fiscal year
		<i>ROD Annual Report</i>	Abstracts of each ROD signed in the fiscal year
301(h)(1)(B)	Status and estimated date of completion of each FS	Appendix A	Status and estimated completion date of each ongoing FS in progress at the end of the fiscal year
301(h)(1)(C)	Notice of each FS which will not meet a previously published schedule for completion and the new estimated date for completion	Appendix A	Scheduled completion date published for the last fiscal year, the scheduled completion date recorded in CERCLIS as of end of the current fiscal year, and identification of schedule changes
301(h)(1)(D)	An evaluation of newly developed feasible and achievable permanent treatment technologies	Section 4.5	Evaluation of newly developed technologies through the Superfund Innovative Treatment Evaluation program
301(h)(1)(E) 121(c)	Progress made in reducing the number of facilities subject to review under CERCLA Section 121(c), which requires a report to the Congress a list of facilities for which a five-year review is required, the results of all such reviews, and any actions taken as a result of such reviews	Section 4.6	Annual update on progress being made on sites subject to review under CERCLA Section 121(c)

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Exhibit ES-3 (cont'd)
Statutory Requirements for the Report

CERCLA Section	CERCLA Requirement	Report Section	Report Content
301(h)(1)(F)	Report on the status of all remedial and enforcement actions undertaken during the fiscal year, including a comparison to remedial and enforcement actions undertaken in prior fiscal years	Executive Summary	Information on fiscal year remedial activity starts (including PRP involvement) with a comparison of fiscal year activities to those of previous years
		Section 4.2	
		Section 5.2	Information on fiscal year enforcement activities with a comparison of fiscal year activities to those of previous years
		Appendix A	Information on the status of each RI/FS and RA in progress at the end of the fiscal year
301(h)(1)(G)	Estimates of the amount of resources, including the number of work years or personnel, which would be necessary for each department, agency, or instrumentality which is carrying out any activities to complete the implementation of all duties vested in the department, agency, or instrumentality	Appendix B	Information on the status of RDs in progress at the end of the fiscal year
		Sections 8.1 and 8.3	EPA resource estimates for completion of CERCLA implementation
301(h)(2)	Review by the Inspector General and submission of any report related to EPA's activities for reasonableness and accuracy	Section 8.4	Other federal agency's and department's estimates for completion of CERCLA implementation
		Appendix E	Review of the Inspector General on this Report
105(f)	Brief description of the contracts which have been awarded to minority firms under Superfund and the efforts made to encourage the participation of such firms in the Superfund program	Section 7.4	Information on minority contracting awards by EPA, states, Indian tribes, and other federal agencies using Superfund monies. EPA efforts to encourage increased minority contractor participation in the Superfund program
120(e)(5)	Annual report to the Congress concerning EPA progress in implementing remedial activities at its facilities	Section 6.4	Report on EPA progress in CERCLA implementation at EPA-owned facilities, including a state-by-state status report

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